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NOTES ON CHIROPTERA.

BY JAMES A. G. REHN.

In the collection of Brazilian mammals made by Mr. H. H. Smith on the Naturalists' Exploring Expedition to southern Brazil (1882–1883), and bequeathed to the Academy by the late Prof. E. D. Cope, are some bats which are of great interest. Several specimens of the same group from different sources were included in the bequest, and together they form a number of interesting subjects for close examination, the results of which seem to warrant publication.

Eptesicus arge (Cope).

Vesperus arge Cope, American Naturalist, XXIII, p. 131, February, 1889.

Type No. 4899. Coll. Acad. Nat. Sci. Phila.

Sao Joao, Brazil. Collected by H. H. Smith.

The type of this species is in a fair state of preservation, and a comparison with the figures and descriptions of other South American forms, like *hilarii, dorianus* and *montanus,* has convinced me that it should be considered a very distinct species. The form of the ear and the tragus, besides the extent of the antibranchial membrane, are distinctive. The dental characters I cannot compare satisfactorily, as few of the allied species have the teeth figured or well described.

The placing of this in the genus *Eptesicus* is in accordance with Lajos.[1]

Measurements :

	MM.
Forearm,	42.2
Tibia,	15.5
Ear,	15
Width of ear (flattened),	9.5
Skull: Total length,	17
Basilar length,	14.6
Greatest zygomatic breadth,	11.1

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[1] *Magyarország Denevéreinek Monographiája (Monographia Chiropterorum Hungariæ)*, pp. 206–208.

	Measurements:	MM.
Skull :	Depth of brain-case,	6
	Depth at first premolar,	3
	Length of palate,	6.9
	Width of palate (including molars),	7

Uroderma bilobatum Peters.

Uroderma bilobatum Cope, American Naturalist, XXIII, p. 130, February, 1889.

Two specimens, Nos. 4883 and 4884. Sao Joao, Brazil. Collected by H. H. Smith. The genera *Uroderma* and *Dermanura* were separated from *Artibeus* on the number of molars present. Dobson[2] states regarding this: "The species of *Artibeus* have been divided into three subgenera according to the presence or absence of the minute last upper or lower molars; but as I find that the presence of these small last molars, certainly of the last upper molars, is variable even in the same species, it is evident that this character can scarcely be considered of much importance." On examining specimens of *planirostris* from southern Brazil, I find that in one specimen the last upper molar is present on one side and absent on the other, and in another both last upper molars are missing. While the last upper molars may always be present in young specimens of *planirostris*, the fact that they are sometimes absent in the adult forces itself upon us. An examination of a large series of bats of these three genera would probably show that the presence or absence of the last molars is of secondary consequence.

Peters[3] founded the genus *Uroderma* on what he supposed was the *Phyllostoma personatum* of Wagner, but later he concluded the description of that species was too indefinite to be determined, the description being equally applicable to specimens of either *Vampyrops lineatus* or *Chiroderma villosum*. The name *Uroderma bilobatum* was applied to the new species,[4] and accordingly the type of the genus *Uroderma* is *Phyllostoma personatum* Peters (nec Wagner) = *Uroderma bilobatum* Peters. The species *Phyllostoma planirostre* Spix was considered by Peters to be the same as *Artibeus perspicillatus*, but Dobson placed *planirostris* and *bilobatum* in the same subgenus solely on the number of molars, while the cranial characters of the latter seem to have never been examined.

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[2] *Catal. Chirop.*, p. 514.

[3] *Monatsber. K. Akad. Wissensch.* Berlin, 1865, p. 588.

[4] *Monatsber. K. Akad. Wissensch.* Berlin, 1866, p. 394.

Prof. Cope did not remove the skulls of the two specimens in the collection and the only reference to the skull of this species I can find is that of Thomas,[5] who simply makes the following comparison in describing *Artibeus glaucus*: "Skull . . . . almost as elongated as that of *A. bilobatus*, and sharing with that species in the less abrupt rise of the brain-case above the level of the muzzle; but while in *A. bilobatus* it is the muzzle that is raised, in *A. glaucus* it is the brain-case which is depressed, so that there is no really close resemblance between the two."

A study of specimens of both *bilobatum* and *planirostris* shows that the latter should be removed generically from the former, and a comparison with *perspicillatus* gives no good reason for separating it from *Artibeus*, the simple presence or absence of the last upper molar being of too uncertain value.

A table of the characters of the two genera (disregarding the number of molars entirely) would be as follows:

Genus **URODERMA** Peters.

Type—*Phyllostoma personatum* Peters (nec Wagner) = *Uroderma bilobatum* Peters.

Skull elongate, weasel-like, the anterior portion little lower than the brain-case, the height (from centre of base of second premolar) being decidedly greater than the width of the postorbital constriction. Horseshoe laterally with two rounded lobes. Species medium-sized.

Genus **ARTIBEUS** Leach.

Type—*Artibeus jamaicensis* Leach = *Vespertilio perspicillatus* Linnæus.

Skull thick and massive, the anterior portion depressed, the height being less than the width of the postorbital constriction. Horseshoe without lateral lobes.

Species large (except *A. glaucus* Thomas).

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[5] *Proc. Zool. Soc.* London, 1893, p. 336.

Comparative Cranial Measurements :

	Artibeus perspicillatus, No. 5705, Jamaica.	*Artibeus planirostris,* No. 4875, Chapada.	*Uroderma bilobatum,* No. 4883, Sao Joao.
Total length, ...	28	30	24
Basilar length, ...	22.75	24	21
Greatest zygomatic width, . . .	17.1	19	*circa* 12.6
Length of palate (from anterior face of incisors), ...	13.6	16	13
Breadth of palate and teeth at first molar,.	12.5	13.25	9.5
Depth of brain-case, ...	11	12.1	9.1
Depth at second premolar, . . .	5	7	7
Width of postorbital constriction, .	7.2	7.5	6.1

Artibeus eva (Cope).

Dermanura eva Cope, American Naturalist, XXIII, p. 130, February, 1889.

Types—Nos. 5783 and 5784. St. Martins, West Indies. Collected by Dr. R. E. Van Rijgersma. A study of the types of this species proves that Prof. Cope gave them a rather superficial examination when he placed them in the genus *Dermanura,* his record of the molars present being incorrect. The skull of No. 5,783, which I have removed, shows that the specimen evidently possessed six lower molars, as is generally considered to be the case with *Artibeus,* one being in position and the alveolus of the other being unabsorbed.

I can add little to the original description, the only point which seems to have escaped attention being the shallow emargination of the interfemoral membrane, which is of much greater expanse than either *perspicillatus* or *planirostris.* The form of the nose-leaf has induced me to place this species in *Artibeus,* the species of which all seem to possess a nose-leaf which is little higher than broad, while that of *Dermanura* is twice as high as broad.

Measurements :

Specimen No. 5784:

Total length, ...	73.25	mm.
Forearm, ...	62	"
Tibia, ...	24	"
Foot, ...	14	"
Ear, ...	19	"
Width of ear (flattened), ...	12	"

Measurements:

Skull of specimen No. 5783:

Total length, ...	27.6	mm.
Basilar length, ...	22.5	"
Greatest zygomatic breadth, ...	17	"
Depth of brain-case, ...	10.4	"
Depth of second premolar, ...	6	"
Length of palate, ...	13.5	"
Breadth of palate (including molars), ...	12.5	"

Sphæronycteris toxophyllum Peters. Sitzungberichte der K. P. Akademie der Wissenschaften, Berlin, 1882, pp. 988-990, taf. XVI.

The discovery of an alcoholic specimen of this very remarkable bat among the material received from Prof. Cope is of interest. It was collected at Pebas, Peru, by John Hauxwell, and was not identified by Cope. The specimen agrees perfectly with Peters' description and plate, and forms a link in the chain of distribution. The type came from an unknown locality, and the only other specimen of which we have information is one collected at Merida, Venezuela.[6]

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[6] Thomas, *Ann. and Mag. Nat. Hist.* (7), II, p. 318.